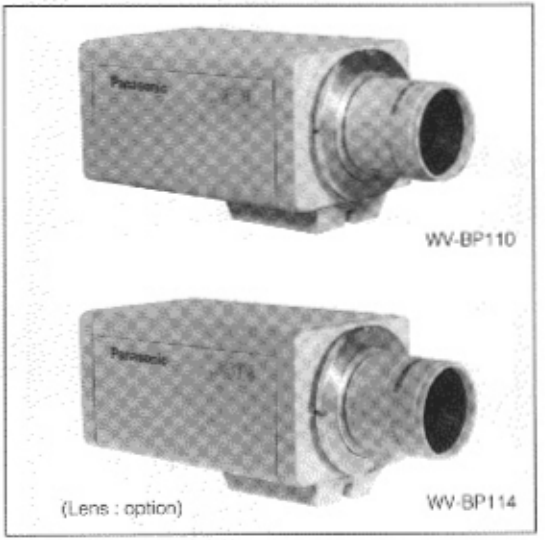
CCTV Cameras

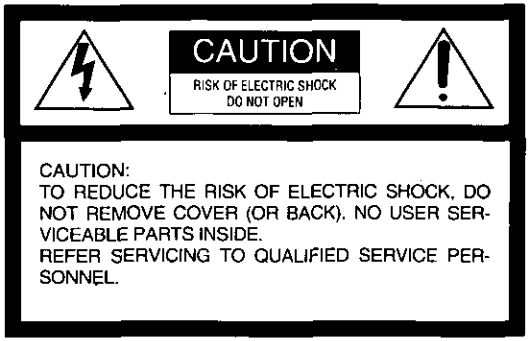
WV-BP110/WV-BP114

Operating Instructions



Panasonic®

Before attempting to connect or operate this product,
please read these instructions completely.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

SA 1965

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

SA 1966

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For U.S.A

Warning:
This equipment generates and uses radio frequency energy and if not installed and used properly, i.e., in strict accordance with the instruction manual, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

For CANADA

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

The serial number of this product may be found on the bottom of the unit.
You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. _____

Serial No. _____

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

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PREFACE

Panasonic's WV-BP110 series cameras introduce a new level of high picture quality through the use of a 1/3 inch interline transfer CCD having 512 horizontal pixels (picture elements). High performance-to-cost ratio is achieved through the use of newly developed Sync IC's and ability to shoot indoor scenes with a fixed iris lens by use of Electronic Light Control (ELC) function.

FEATURES

- Minimum illumination of 0.015 footcandle (0.15 lux) at F1.4 and Signal-to-noise ratio of 46 dB by employing a 1/3 inch interline transfer CCD image sensor with 512 (H) x 492 (V) pixels.
- 380 lines of horizontal resolution
- Ability to shoot indoor scenes with fixed iris lens by use of Electronic Light Control (ELC) function.

PRECAUTIONS

- **Do not attempt to disassemble the camera.**
  To prevent electric shock, do not remove screws or cover. There are no user-serviceable parts inside.
  Refer servicing to qualified service personnel.

- **Handle the camera with care.**
  Do not abuse the camera. Avoid striking or shaking it. The camera could be damaged by improper handling or storage.

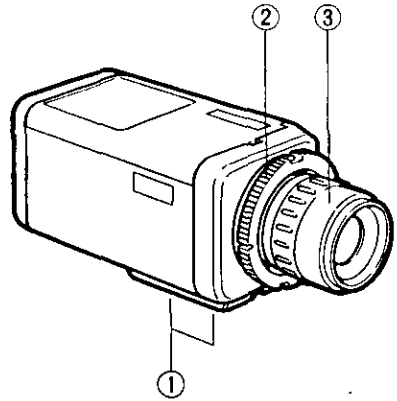
- **Do not expose the camera to rain or moisture, or try to operate it in wet areas.**
  Do take immediate action if ever the camera do becomes wet. Turn power off and refer servicing to qualified service personnel. Moisture can damage the camera and also create the danger of electric shock.

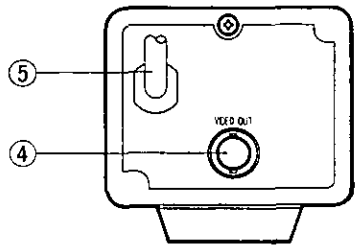
- **Never face the camera toward the sun.**
  Whether the camera is in use or not, never face it toward the sun. Do use caution when operating the camera in the vicinity of spot lights or other bright lights and light reflecting objects.

- **Do not operate the camera beyond its temperature, humidity or power source ratings.**
  Do not use the camera in an extreme environment where high temperature or high humidity exist. Use the camera under conditions where temperatures are within –22°F - 122°F (–30°C - +50°C), and humidity is below 90%. The input power source is 120V AC 60 Hz for WV-BP110 or 24V AC 60 Hz for WV-BP114.

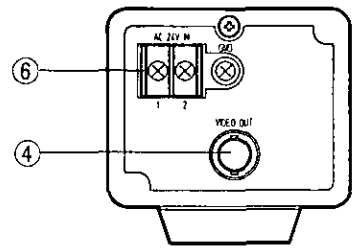
Caution:
To prevent fire or shock hazard, the UL listed wire VW-1, style 1007 should be used for the cable for AC 24V Input Terminal.

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS





WV-BP110



WV-BP114

(1) Camera Mounting Screw Hole

This threaded hole (1/4" - 20) is used to mount the camera onto a mounting bracket or tripod.

(2) Flange-backAdjusting Ring

This ring is used to adjust the back focal length or picture focus by rotating this ring to counterclockwise.

Caution:

Always set this ring to fully clockwise before mounting the lens.

(3) Lens (Option)

See page 8 for details on lens selection.

(4) Video Output Connector (VIDEO)

A 1.0 Vp-p/75 ohms composite video signal is provided at this connector.

(5) AC Power Cord

(6) AC 24V In Terminal (AC 24V IN)

This terminal accepts 24V AC power source (19.5V -28V). Be sure to connect grounding lead to the GND terminal.

Cautions:

1. Connect this to a 24V AC class 2 power supply only.
2. To prevent fire or shock hazard, the UL listed wire VW-1, style 1007 should be used for the cable for AC 24V Input Terminal.

ELC (Electronic Light Control)

In this mode a continuously variable electronic shutter is employed to automatically control exposure times in the CCD Image Sensor, according to the incoming light level.

With this mode selected, fixed or manual iris lens can be used instead of an ALC type lens.

Caution:

Under certain unique lighting conditions, the following may appear:

- Strong smear and/or blooming on high light objects such as spot lights or windows.
- Noticeable flicker on the picture.

CONNECTIONS

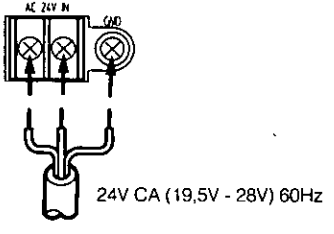
Power Source

- **WV-BP110**

  Connect the AC Power Cord (5) to a electrical outlet of 120V AC 60 Hz.

- **WV-BP114**

  1. A power supply of 24V AC 60 Hz is required.
  2. Connect the power cable to the 24V AC In Terminal (6) on the rear panel of the camera.



Recommended wire gauge sizes for 24V AC line.

Copper wire size (AWG)		#24 (0.22mm²)	#22 (0.33mm²)	#20 (0.52mm²)	#18 (0.83mm²)
Length of Cable (Approx.)	ft	314	495	842	1403
	m	95	150	255	425

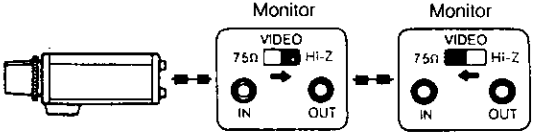
Caution:

To prevent fire or shock hazard, the UL listed wire VW-1, style 1007 should be used for the cable for AC 24V Input Terminal.

Video Cable

1. It is recommended to use a video monitor whose resolution is at least equal to the camera's.
2. Terminate the camera output with 75-ohm resistor at the furthest end of its cable run.

- It is recommended to use 75-ohm coaxial cable.
- Always set the last monitor's termination switch to 75 ohms, and set the termination switches of intermediate monitors to high impedance (Hi-Z) position.



- The maximum extensible coaxial cable length between the camera and the monitor is shown in the table 1. Since cable quality varies among manufactures, verify video quality before final installation if maximum lengths are to be used.

Table 1

Type of coaxial cable		RG-59/U (3C-2V)	RG-6U (5C-2V)	RG-11/U (7C-2V)	RG-15/U (10C-2V)
Recommended maximum cable length	(ft)	825	1,650	1,980	2,640
	(m)	250	500	600	800

Wiring precautions:

- Do not bend coaxial cable into a curve whose radius is smaller than 10 times the cables diameter.
- Never staple the cable-not even with circular staples. Mismatching will occur.
- Never crush or pinch the cable.
  All of these will change the impedance of the cable and cause poor picture quality.

LENSES

1. Selection of Lens

<Manual and Fixed Iris Lenses>

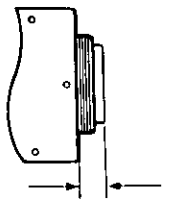
Models / Specifications		WV-LM4R5A (Wide Angle)	WV-LM6B2 (Wide Angle)	WV-LM12B2 (Standard)	WV-LF4R5C3A (Wide Angle)	WV-LF9C3A (Wide Angle)
Image Size		1/2" (6.4 (H) x 4.8 (V) mm)			1/3" (4.8 (H) x 3.6 (V) mm)	
Focal Length		4.5 mm	6 mm	12 mm	4.5 mm	9 mm
Maximum Aperture Ratio		1 : 1.4	1 : 1.4	1 : 1.4	1 : 1.2	1 : 1.2
Angular Field of View	H	72.6° [56.9°]	56.8° [43.5°]	30.4° [22.8°]	56.4°	29.6°
	V	56.7° [43.6°]	43.5° [33.0°]	22.8° [17.1°]	43.3°	22.2°
Iris		Manual	Manual	Manual	Fixed	Fixed
Focusing Range		Adjusted by Camera				
Mount		CS-mount, 1"-32UN				
Filter Size		ø37.5 mm, P = 0.5	None	None	ø30.5 mm, P = 0.5	ø30.5 mm, P = 0.5
Dimensions		ø1-3/4" x 1-5/8" (ø44 x 41 mm)	ø1-11/16" x 1-9/16" (ø43 x 39 mm)	ø1-11/16" x 1-9/16" (ø43 x 39 mm)	ø1-3/8" x 1-7/16" (ø34.4 x 36 mm)	ø1-3/8" x 1-7/16" (ø34.4 x 36 mm)
Weights		0.20 lbs. (93g)	0.10 lbs. (45g)	0.08 lbs. (35g)	0.06 lbs. (29g)	0.05 lbs. (23g)

- [ ]indicates an angle used with the camera WV-BP110 Series.
- Dimensions and weights indicated are approximate.
- Specifications are subject to change without notice.

2. Mounting the Lens

When you use the lens other than listed on page 8, lens mount should be special C-mount (CS-mount 1"-32UN) and lens weight should be less than 0.99 lbs (450g). If not, both the lens and camera should be secured.

The protrusion of the rear of the lens should be as shown below.

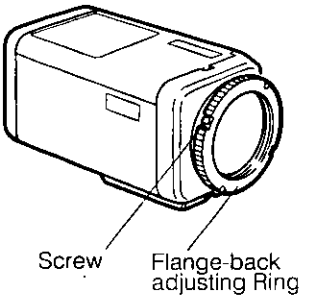


CS-mount : Less than 1/4" (7.2 mm)

FOCUS OR FLANGE-BACK ADJUSTMENT

The following adjustment should be made by qualified service personnel or system installers.

1. Loosen screws on the flange-back adjusting ring.



2. Turn the flange-back adjusting ring to the desired position.

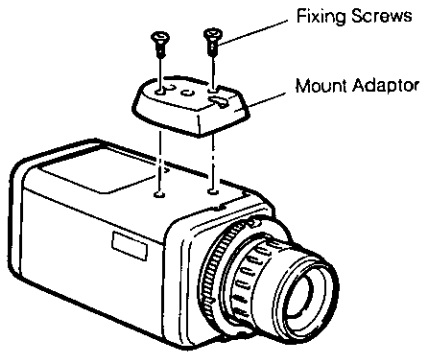
   Caution:

   Do not turn this ring too much to counterclockwise as this could damage the inner glass and CCD image sensor.

3. Tighten the screws on the flange-back adjusting ring.

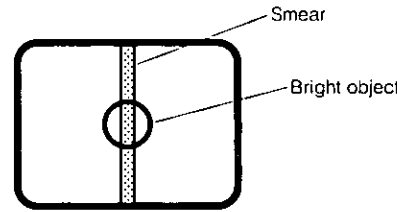
INSTALLATION OF CAMERA

- **Mounting from the top**
  Remove the mount adaptor from the bottom of the camera as shown. The hole is the standard photographic pan-head screw size (1/4" - 20).
  Make sure that two original screws are used when mounting the mount adaptor; longer type screws may damage inner components.



PREVENTION OF BLOOMING AND SMEAR

When the camera is faced toward spot light or other bright lights and light reflecting objects, smear or blooming may appear. Therefore, the camera should be operated carefully in the vicinity of extremely bright objects to avoid smear or blooming.



LENS MAINTENANCE AND CLEANING

1. Remove the lens, and inspect the camera CCD faceplate through the lens mount opening to assure that the faceplate is free of smudges or particles of dirt.
2. Clean the CCD faceplate, if necessary, using lens tissue or a cotton tipped applicator and ethanol.
3. Install the new lens.

SPECIFICATIONS

Pick-up Device:	512 (H) x 492 (V) pixels. Interline Transfer CCD
Scanning Area:	4.8 (H) x 3.6 (V) mm (Equivalent to scanning area of 1 /3" pick-up tube)
Synchronization:	Line-locked mode
Scanning System:	2 : 1 interlace
Scanning:	525 lines/60 fields/30 frames
Horizontal:	15.75 kHz
Vertical:	60 Hz
Horizontal Resolution:	380 lines
Video Output:	1.0 Vp-p composite,75Ω/BNC connector
Signal-to-Noise Ratio:	46 dB
Electronic Light Control:	Equivalent to continuous variable shutter speed between 1/60 s and 1/80,000 sec.
Minimum Illumination:	0.015 footcandle (0.151ux) at F1.4, AGC ON
Lens Mount:	CS-mount
Ambient Operating Temperature:	–22°F - 122°F (–30°C - +50°C)
Power Source:	WV-BP110 120V AC 60 Hz
	WV-BP114 24V AC 60Hz
Power Consumption:	WV-BP110 2.3W
	WV-BP114 2.3W
Dimensions (without lens):	2-5/8" (W) x 2-9/8" (H) x 4-5/8" (D) [67 (W) x 65 (H) x 118 (D) mm]
Weights (without lens):	WV-BP110 1.3 lbs. (0.61 kg)
	WV-BP114 1.0 lbs. (0.45 kg)

Weights and dimensions indicated are approximate.
Specifications are subject to change without notice.

STANDARD ACCESSORY

Body Cap ..... 1 pc.

OPTIONAL ACCESSORIES

Lenses : WV-LM4R5A, WV-LM6B2, WV-LM12B2
WV-LF4R5C3A, WV-LF9C3A

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